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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/549,565

09/19/2005

Atsushi Ando

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EXAMINER

BINDA, GREGORY JOHN

ART UNIT

PAPER NUMBER

3679

MAIL DATE

DELIVERY MODE

06/07/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/549,565	Applicant(s) ANDO ET AL.	
	Examiner Greg Binda	Art Unit 3679	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 6-12 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 6-12 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 19 September 2005 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|--|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date <u>9/19/05</u> . | 6) <input type="checkbox"/> Other: ____ |

Art Unit: 3679

Drawings

1. The drawings are objected to because:
 - a. The drawings fail to show PCR and the angle recited in claim 6, lines 35 & 37.
 - b. Reference numerals 12 & 18 are used to identify features in Figs. 1-6 and then reused to identify modifications of those features in Figs. 7-9. Such usage is proscribed.See MPEP § 608.02(e)

2. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as “amended.” If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either “Replacement Sheet” or “New Sheet” pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Specification

3. The disclosure is objected to because paragraph 0044 states that “four or more leg shafts” could be used instead of three, but there is no explanation of how a joint with “four or more leg shafts” would constitute a constant velocity universal joint, the disclosed invention.

Claim Rejections - 35 USC § 112

4. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

5. Claims 6-12 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claims contain subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. Claim 6, lines 25-39 recites that sizing of the elements that comprise the claimed invention is dependent on the friction coefficients recited in lines 40-44. However, the specification fails to teach how those friction coefficients are determined. There is no indication of whether the coefficients take into account lubrication and/or the wear of the elements between which the coefficients are determined.

6. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Art Unit: 3679

7. Claims 6-12 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

a. Claim 6, lines 27-33 recites that each of the dependent variables W1 & W2 is measured from the center of the cylindrical surface 18a to one end of the cylindrical surface 18a. That means each of W1 & W2 *must* be equal to $\frac{1}{2}$ the total length of the cylindrical surface 18a. Thus $W1 = W2$. However, in lines 25 & 26 the variables W1 and W2 are recited as having values that would not necessarily be equal to each other. It is not clear how W1 could be unequal to W2.

b. Claim 6, lines 40-44 recites the limitations, “friction coefficient when the inner roller is moved with respect to the outer roller in an axial direction of the inner roller” and “friction coefficient between the convex sphere of each of the leg shafts and the concave sphere of the inner roller”. However it is not clear if these friction coefficients are determined with or without lubrication and/or are determined as new or worn in.

Claim Rejections - 35 USC § 102

8. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

9. Claim 6 is rejected under 35 U.S.C. 102(b) as being anticipated by Matsumoto et al, US 5,256,107. Figs. 1 & 2 show a constant velocity universal joint comprising: a hollow outer joint

Art Unit: 3679

member 22 with three guide grooves 34 having flat engagement surfaces 46 connected to a first shaft 20; an inner joint member 26 connected to a second shaft 24; three leg shafts on the inner joint member, each with a convex sphere 29; an inner roller 30 with a concave sphere 31 on each convex sphere; an outer roller 32 with an outer cylindrical surface on each inner roller; a rolling body 42 provided between each pair of inner and outer rollers. In col. 7, lines 53 & 54, the inner and outer rollers 30 & 32 are disclosed as movable with respect to each other in an axial direction.

10. Claim 6 is rejected under 35 U.S.C. 102(b) as being anticipated by Hosdez et al, US 5,935,009. Figs. 1 & 2 show a constant velocity universal joint 1 comprising: a hollow outer joint member 5 with three guide grooves 4 having flat engagement surfaces; an inner joint member 2; three leg shafts 3 on the inner joint member, each with a convex sphere (see “ball-headed end” in col. 3, line 37); an inner roller 6 with a concave sphere (see also col. 3, line 36) on each convex sphere; an outer roller 11 with an outer cylindrical surface 12 on each inner roller; a rolling body 10 provided between each pair of inner and outer rollers. In col. 3, lines 57-64, the inner and outer rollers 6 & 11 are disclosed as movable with respect to each other in an axial direction.

11. Claims 6-12 are rejected under 35 U.S.C. 102(b) as being anticipated by Kawakatsu et al, US 2002/0128078. Fig. 12 shows a constant velocity universal joint 100 comprising: a hollow outer joint member 14 with three guide grooves 20 having flat engagement surfaces 24a, 24b; an inner joint member 26; three leg shafts 30 on the inner joint member, each with a convex sphere

Art Unit: 3679

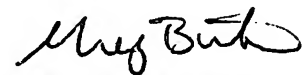
36; an inner roller 40 with a concave sphere 38 on each convex sphere; an outer roller 44 with an outer cylindrical surface on each inner roller; a rolling body 42 provided between each pair of inner and outer rollers. In paragraph 0075, the inner and outer rollers 40 & 44 are disclosed as movable with respect to each other in an axial direction. Fig. 12 shows curved tapered surfaces at the ends of the outer cylindrical surface of the outer ring 44 and the ends of the flat engagement surfaces 24a, 24b.

Conclusion

12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Greg Binda whose telephone number is (571) 272-7077. The examiner can normally be reached on M-F 9:30 am to 7:00 pm with alternate Fridays off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Daniel P. Stodola can be reached on (571) 272-7087. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.


GREGORY J. BINDA
PRIMARY EXAMINER